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With More Rhetoric than Money, Bush Nods to R&D

Under President George Bush, as with his modern predecessors, the political agenda of the science establishment can be simply stated. All it wants is sympathetic regard for its voracious financial needs and a place for one of its own in high councils at the White House.

Though he has little money to spare, Bush has gestured amicably on the first item, tossing a few extra bucks and many kind words to science last week in the modifications of the budget that he inherited for fiscal 1990, which begins next October 1. The financial realities are obscure, but he proposed increasing the budget of the National Science Foundation by $361 million, rather than the $264 million increase in the Reagan budget. He endorsed $250 million for the Superconducting Super Collider, whose fate is still uncertain on Capitol Hill. Bush added a bit to the budget of the National Institutes of Health, knowing that Congress controls that account and is likely to add even more.

He also endorsed the Space Station, announcing that he will release the $515 million for it that Congress assigned to Presidential discretion last year. With money tight, symbols are a substitute. Bush thus frugally signified his concerns about science education by proposing a program of $10,000 scholarships for National Science Scholars—high school students, one for each member and delegate in Congress, plus 30 chosen by the President, for a total of 570, at a startup cost of $5 million. He also endorsed a permanent tax credit for what's now referred to as R&E (research and experimentation), formerly R&D. The credit, due to expire this year, is a holy issue among some industrial lobbyists, though the evidence is mixed on whether it actually inspires research that otherwise would go undone.

Budget : R&D vs. Social Needs—P. 6
Mixed Verdict for Baltimore—P. 4

Many of the so-called increases in the revised budget involve bookkeeping acrobatics, or are dependent on budget moves elsewhere that Congress is not likely to accept, such as major restraints on Medicare spending. Bush limited his own maneuvering room with opportunistic campaign vows against new taxes, but it's generally recognized that Reagan left him a budget mess, and his choices are limited, both politically and financially. Looked at in those terms, science fared reasonably well in the proposed remake of the last Reagan budget.

The same cannot be said of that second matter of heartfelt scientific concern: A high place at court for a representative of the science establishment.

On this matter, the opening weeks of the new Administration saw the statesmen of R&D, and their industrial and political friends, on the outside looking in, increasingly puzzled and dismayed.

As of February 10, their own special enclave at the White House, the Office of Science and Technology Policy (OSTP), still remained on a caretaker basis, with the long-sunken Reagan appointee, Director William R. Graham, officially resigned but remaining on at the request of the White House until a successor is chosen. However, for some period during the opening, and formative, days of the Bush Administration, Graham was abroad, on an official visit to the Philippines and perhaps elsewhere. As usual, his office persisted with the pathological secrecy that has marked his tenure, failing to respond to an inquiry about where he went, when, and for what purpose. The fact is, however, that the holdover Science Adviser was gone from the scene for some crucial days.

Starting during the election campaign, and intensifying during the transition period, science-policy circles in Washington have continually tingled with rumors about this or that prospect to succeed Graham in the dual positions of Presidential Science Adviser and Director of OSTP. What has since become evident is that the appointment of a Science Adviser is not regarded as an urgent task by Bush and his inner circle. This indifference is the equivalent of a kick in the teeth for many of the most important people in and around science politics, from the National Academy of Sciences to Capitol Hill.

The science mandarins were clearly pleased by Bush's rhetorical patting of science in his address to Congress, along with some extra money (NSF Director Bloch was euphoric about Bush's reference to the Foundation early in the address). But everything Bush offered was off-the-shelf stuff. There was none of the policy innovation that science

(Continued on Page 2)

In Brief

Ruth Reck, an environmental researcher at General Motors, was widely mentioned in Washington last week as a leading prospect for Presidential Science Adviser, after her appointment to meet with White House Chief of Staff John Sununu was flashed by the electronic bulletin board of the American Physical Society. But a week later, there was still no announcement on the post.

The Scientist, *the twice-monthly tabloid founded three years ago by Eugene Garfield, President of the Institute for Scientific Information, came close recently to teaming up with the 110,000-member Sigma Xi scientific society, a move that would provide circulation and ads that have so far proved elusive. But even with Garfield pledging $2.4 million for the first year, Sigma Xi said no. Garfield, confident of the paper's potential, is still looking for a partner.*

. . . Candidate Bush Said All They Wanted to Hear

(Continued from Page 1)

sorely needs, such as a clear focus of authority for federal R&D linked to industrial goals, and decisive moves to attack the decrepitude of science education at the elementary and high school levels. NSF now devotes about 10 percent of its budget to that goal, proudly noting that the share is up from zero in 1983. Twenty-five years ago, however, education and research were equal partners in sharing NSF's wealth. Given the educational calamity spreading in the US, the dearth of support for curriculum innovation and experimentation and teacher retraining—NSF's traditional roles in science education—is plain folly.

Alarmed by past Presidential dawdling in appointing a Science Adviser, and by the virtual collapse of the office in the later Reagan years, the leaders of the science establishment worked hard to make it different this time. They recalled that Carter, upon taking office in January 1977, had to be persuaded that he needed a Science Adviser, that it wasn't until late February that he made his choice, Frank Press (and it was April before Press received Senate confirmation). Reagan's first Science Adviser, George Keyworth II, came on board four months after Inauguration Day. And the position was filled on an acting basis for 10 months between Keyworth's departure and Graham's confirmation.

In response to these memories, the elders of science have for over a year been expressing deep convictions about the indispensability of high-quality science advice for modern government. The central point of their agitations was that the Presidential Science Adviser should be an early appointee, signed on during the transition, to assist in the formulations of basic policies and in the selection of other scientific and technical appointees. Frank Press, President of the National Academy of Sciences, took the position that science advice is so important that the Science Adviser should hold cabinet rank.

As recently as February 1—nearly three months after the election, ten days into the new Administration—the gang was at it again, this time with the release of another report, *Science & Technology and the President*, produced by the Carnegie Commission on Science, Technology, and Government, created last year, and Co-Chaired by Joshua T. Lederberg, President of Rockefeller University, and William T. Golden, President of the New York Academy of Sciences. (The report, 26 pages, is available without charge from: The Carnegie Commission, 10 Waverly Place, New York, NY 10003; tel. 212/998-2150). The Commission and its advisory council number 50 in all, drawn mostly from academe, industry, and government, constituting a who's who of the sci-tech establishment and important friends.

Golden, a Truman adviser on the organization of science advice for the White House, edited an anthology published last year, *Science and Technology Advice to the President, Congress, and the Judiciary*, in which 85 authors with close, distant, or no knowledge of science policy advised the President on his science-advisory needs. The great majority concluded that whether or not the President realized it, he would subject the nation to unacceptable risk if he did not have a Science Adviser at his elbow.

The same theme is woven through the Carnegie Commission report, dated October 24, 1988, on its cover, but released to the public on February 1. Regarding the Presidential Science Adviser, it states that the rank should be raised to Assistant to the President for Science and Technology. And, in what hindsight now shows to have been a congenial hallucination about the shaping of new presidential administrations, it recommends: "The appointment should be made early in the post-election period so that the Assistant can participate on the transition team and handle S&T questions relating to policy directions, budgetary choices, the organization of the Executive Office staff, and the identification and review of candidates for major Presidential appointments to S&T posts in the Executive Branch. . . The Assistant should have a strong and formal relationship with the National Security Council, the Domestic Policy Council, the Economic Policy Council, and the Office of Management and Budget."

Events have demonstrated the futility of sermonizing the Presidency on its operational needs, especially when the pulpit is manned by leaders of organizations that live off the federal treasury.

But in this instance, the humiliation of the brushoff is compounded by the fact that when Candidate Bush was hustling for votes, he spoke sweet words to the leaders of American science, often echoing the advice they were thrusting upon the next President.

Ironically, given the non-appointment so far of a Science Adviser, several of Bush's affable campaign statements on this position are included in the budget-revision document that accompanied his address to Congress on February 9, *Building a Better America* (GPO Stock No. 041-001-00346-1; 193 pp., $8; order from: Superintendent of Documents, USGPO, Washington, DC 20402; tel. 202/783-3238).

The candidate did not address the science lobby's crucial

(Continued on Page 3)

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. . .Presidents Don't Seem to Yearn for R&D Advice

(Continued from Page 2)

point of getting the Science Adviser in on the ground floor of the new Administration, in the early days, when alliances are being formed, territory carved up, and new troops recruited. But he did say: "I will upgrade the President's Science Adviser to Assistant to the President and make him an active member of the Economic Policy Council and our national security planning processes. And I will create a President's Council of Science and Technology Advisers, composed of leading scientists, engineers, and distinguished executives from the private sector."

Turning from campaign history to fresh policy, the report on the budget revision repeats the pledge about raising the Science Adviser to the rank of Assistant to the President, on a par, it notes, with the National Security Adviser. A 28-percent budget increase for the White House Science Office is proposed, "reflecting the importance that the President attaches to the advice and counsel provided by OSTP on a wide variety of issues with scientific and technological aspects."

Left unmentioned was that Congress gutted the OSTP budget because of doubts about the value of the creaky functioning of the advisory operation. But, in justification of the increase, which amounts to only a few hundred thousand dollars, the budget report states that the additional funds "will allow OSTP to play a central role in developing and coordinating federal science and technology strategies, and in analyzing crosscutting issues in research and development.

"The Assistant to the President for Science and Technology," it continues, "would also assist the Office of Management and Budget in developing plans for multi-year authorizations and appropriations for research and development programs"—a reference to overcoming Congressional reluctance to finance R&D on a longterm basis.

Finally, the budget report states, "As soon as feasible" the President will fulfill his campaign promise to establish a Council of Science and Technology Advisers. Unexplained was the qualifier about feasibility which, of course, is in the President's control. The Council, as well as the Science Adviser, could have been in place on Inauguration Day, if he wanted them.

It is often speculated that the delays in making the appointments are somehow linked to the technical background of White House Chief of Staff John Sununu, who holds a PhD in mechanical engineering. Some say he's overly cautious about making an appointment in an area in which he feels personally competent. Others say that's nonsense, and that the delay is attributable to nothing more than the slight regard that Bush and his close aides feel for the post.

Another school holds that the science-advisory post is indelibly identified in political folklore as a lobbying operation for university-based science; that it is regarded as vulnerable to an academic constituency that is soft on arms control, and that the scientists who are drawn to its service give their loyalty to their vision of goodness, rather than to the beleaguered occupant of the White House.

Richard Nixon eventually came to those perceptions about his science advisers, threw them all out and banished the advisory function to the National Science Foundation, which did not receive many calls for Presidential science advice. Restoration of science advice to the White House was initiated by Congress, where specialized committees like to have a White House official to call on the carpet for discussions of both grand policy and fine details.

That was long ago, and however justified Nixon may have been, the science-advisory establishment has ever since eulogized loyalty and discretion as the essential qualities of the effective adviser.

But politics still has difficulty accepting scientific helpmates. Even before Bush took office, he had a full complement of political, national security, and economic advisers. And, with a few stumbles, he hurried to appoint his cabinet and various other high-level officials.

Along the way, it probably never occurred to him that he suffers from lack of a Science Adviser.—DSG

Job Changes, Appointments

Mary Clutter has been appointed Assistant Director for Biological, Behavioral and Social Sciences at the National Science Foundation, succeeding David T. Kingsbury, who left NSF in October for George Washington University. Clutter joined NSF in 1976 and has held various posts there, including Division Director for Cellular Biosciences and Senior Science Adviser to the NSF Director.

W. Roland Schmitt, President of Rensselaer Polytechnic Institute, has been elected Chairman of the Council on Research and Technology (CORETECH), a Washington-based academic-industrial lobbying alliance. Schmitt formerly was a vice president of GE and Chairman of the National Science Board. Elected as CORETECH Vice Chairman: **Bobby Inman,** former head of the National Security Agency and Deputy Director of the CIA, currently head of Westmark, Inc., an electronics firm.

Philip M. Boffey has been appointed Science and Health Editor at the *New York Times,* the most influential science post in newspaper journalism. Boffey, with the *Times* for 11 years, succeeds **Erik Eckholm,** who, after holding the post for several months, has been appointed editor of the News of the Week in Review. **Rick Flaste,** head of science news from 1982 until last year, is now Deputy Editor of the *Times* Sunday Magazine.

Senator Albert Gore Jr. (D-Tenn.), who built a reputation in the House as a watchdog on science-related issues, is the new Chairman of the Subcommittee on Science, Technology and Space of the Commerce, Science, and Transportation Committee.

NIH Clears but Chastises Baltimore and Coauthors

The long investigation of a disputed scientific paper by Nobelist David Baltimore and two coauthors has come to a resting point with an official finding by the National Institutes of Health that exonerates them of scientific fraud. But the NIH also admonished them for sloppiness in the paper and for appearing not to take seriously the allegations that set off the bitter case.

The verdict and recommendations for amends basically match those of an expert investigatory panel whose confidential draft report to NIH was first reported in SGR of December 1, 1988. There's more to come, however, on Capitol Hill, where NIH was savaged at a hearing last year for its bumbling response to the allegations that set off the case (SGR, April 15, 1988). The Congressman who presided at that hearing, John Dingell (D-Mich.), Chairman of the House Energy and Commerce Subcommittee on Oversight and Investigations, has many questions for NIH about the thoroughness of its investigations and the treatment of the postdoctoral fellow, Margot O'Toole, who sounded the alarm about the disputed paper.

The controversial paper, on gene expression in transgenic mice, was published in *Cell* on April 25, 1986, by Baltimore, Director of the Whitehead Institute for Biomedical Research, MIT; Thereza Imanishi-Kari, of Tufts University, and David Weaver, of the Dana-Farber Cancer Institute.

The case arose, in the spring of 1986, when postdoctoral fellow O'Toole, working under Imanishi-Kari, expressed puzzlement about portions of the paper because the stated results struck her as unwarranted by the supposedly underlying research. O'Toole never raised a charge of fraud or misconduct, as NIH acknowledges, though the formal decision in the case inexplicably exonerates Baltimore and his colleagues of "fraud, misconduct, manipulation of data, or serious conceptual errors."

O'Toole merely questioned whether the coauthors were tolerating a published error. In return, she got a brushoff from the senior investigators and authorities at Tufts and MIT, and says that the episode left her professionally tarnished and disillusioned about the integrity of science. She says she's regarded as a troublemaker and has been unable to find a decent job in the profession for which she trained.

With a strong push from NIH's own dissident investigators of scientific misconduct, Ned Feder and Walter Stewart, the case was eventually forced into the official investigative mill at NIH. Baltimore's scientific stature drew press attention to a dispute beyond lay comprehension, and then Congress joined in with raucous hearings at which NIH officials appeared baffled, incompetent, and foolish.

They acknowledged, for example, that their initial response to the complaint was to appoint two colleagues of Baltimore to investigate the case. Embarrassed, NIH dropped the two and appointed the panel that ultimately conducted the inquiry and produced the report on which the official conclusions were based. The members of that panel, unchallenged by any of the parties, are: Joseph M. Davie, Searle Pharmaceuticals; Hugh McDevitt, Stanford University, and Ursula Storb, University of Chicago.

Though the NIH verdict on the Baltimore paper is now in, the affair, an extraordinary event in science and government relations, still has a way to run, and it may be that the worst is yet to come for NIH, which financed the research for the *Cell* paper. Rep. Dingell is said to be unsatisfied with the investigation and conclusions, and O'Toole has expressed strong reservations that indicate her doubts about the laboratory data the NIH expert panel relied on in arriving at its conclusions. Assisting Congressman Dingell in investigating the case are Feder and Stewart, on loan from NIH to Dingell's Committee, which writes the basic legislation for

(Continued on Page 5)

Wyngaarden Critical of Baltimore's Slow Response to Allegations

From the staff-written "decision" memorandum on the Baltimore case, signed by Katherine L. Bick, NIH Deputy Director for Extramural Research, and endorsed by NIH Director James B. Wyngaarden.

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While every disagreement about error clearly should not be escalated into a disagreement about fraud, research institutions have the responsibility of providing an environment in which scientists, especially junior ones, have the freedom to air their concerns without feeling they may be branded as troublemakers. This is a difficult issue, and there is still no consensus as to how to achieve such an atmosphere. While this case might have been resolved much sooner if MIT had initiated a more formal investigative process, it is difficult to censure that institution because the complaints raised concerns about scientific error rather than fraud or misconduct, and there was no clear guidance for dealing with such complaints. . . .

It is NIH's position that allegations or evidence of improprieties in research must be investigated by persons who are knowledgeable in the fields, whose professional qualifications are comparable to those of the individuals accused of misconduct, but who do not have even any appearance of a conflict of interest with either the accused or the accuser. . . .

It is significant to note that it was only recently that the coauthors [Baltimore, Imanishi-Kari, and Weaver] acknowledged that some correction in the literature is warranted, based on a reevaluation of the data in support of the *Cell* paper. It is unfortunate that despite the growing challenge to the validity of their research, the coauthors apparently did not undertake a comprehensive review of their data until they met with the NIH scientific panel.

. . . NIH Head: Issue Correction, but Show Us First

(Continued from Page 4)

NIH. Such staff borrowings from executive agencies are not uncommon on Capitol Hill, but not often do they involve a hostile Congressman borrowing staff members who are at odds with their home agency. NIH, however, had little choice when Dingell requested the services of the pair. The word from the Committee is that a hearing is planned and that Chairman Dingell "wants it sooner rather than later."

While the staff work proceeds on Capitol Hill, Baltimore and his colleagues must contend with a humiliating assignment contained in the letter of verdict to them, dated January 31, from NIH Director James B. Wyngaarden.

Noting that the co-authors had preceded release of the NIH report with a letter of correction in *Cell* last November 18, Wyngaarden wrote that "it was the consensus of the scientific panel [that investigated the case] and senior NIH staff that the published letter of correction does not deal with all the issues which require attention. Several inaccuracies in the paper were identified," Wyngaarden continued, "that are serious enough to warrant the submission of a [second] letter of correction to the journal *Cell*."

But openly exhibiting no trust in the response that the co-authors might fashion, he added: "The letter or manuscript of correction which you and your colleagues would submit to *Cell* in response to this decision should be sent to me prior [Wyngaarden's emphasis] to your sending it to the journal, so that we may review it for completeness and accuracy."

The NIH Director's instructions were not accompanied by threat of penalty. But the backdrop to this unpleasant correspondence is the NIH bankroll. The NIH staff has little say in parceling it out—study sections and advisory councils are, by statute, the power points in that process. But, as trustees of the taxpayers' money, NIH officials can turn it off at their discretion. And, according to grant data that SGR obtained from NIH, a great deal of money could be at risk.

The Whitehead Institute currently holds 40 NIH grants, totaling $8.8 million. Baltimore is the principal investigator on five of those grants, totaling slightly over $1 million. Co-author David Weaver holds one grant, for $100,000. Imanishi-Kari is not listed as a current grantee, NIH reported.

Baltimore was unavailable when SGR sought his comment on the report and Wyngaarden's request for a prior look at a further correction in *Cell*. An associate at the Whitehead Institute said that Baltimore believes that the dispute concerns "a matter of perspective, rather than error." He said that Baltimore and his co-authors intend to comply with Wyngaarden's request for a letter to *Cell* "but the form is uncertain."

Wyngaarden's letter also criticized the co-authors' response to the questions raised by O'Toole, whose doubts about the Cell paper eventually led to an investigation that has cost NIH dearly in Congressional relations and administrative turmoil.

"It appears," the NIH Director wrote in identical letters to Baltimore, Imanishi-Kari, and Weaver "that even though the allegations have been known to you and the other co-authors of the *Cell* paper at least since the Spring of 1986, the co-authors never met to consider seriously the allegations or to reexamine the data to determine whether there might be some basis for the allegation. Such an analysis on the part of the paper's co-authors, followed by appropriate action to correct such errors of oversights[sic], may well have made a full investigation unnecessary."

Wyngaarden's letter to the three co-authors was attached to a staff-written "Decision" document to which he gave his endorsement. The document, signed by Katherine L. Bick, NIH Deputy Director for Extramural Affairs, provides a concise review of the complex case, including the stonewalling that Feder and Stewart encountered from Baltimore and company when they sought to come to O'Toole's assistance. The pair are normally shunned by the NIH bureaucracy that is officially in charge of investigating misconduct. But in this instance, the NIH document states, there was some attempt at a collaborative effort after Feder and Stewart stepped into the case and wrote a paper questioning the *Cell* paper.

The Feder-Stewart paper drew divided results when refereed internally at NIH, Bick's report continues, but the reviewers "were unanimous in their opinion that the coauthors of the *Cell* paper should be asked to comment on the [Feder-Stewart] draft before it was submitted for publication." Feder and Stewart then asked Baltimore and his colleagues to comment on their paper and sought "access to the original laboratory data."

But the authors of the disputed paper were not inclined to open their doors to the two bloodhounds from Bethesda.

"For several months," Bick notes, "the co-authors of the *Cell* paper continued to deny Mr. Stewart's and Dr. Feder's requests for access to the laboratory records associated with their publication. Representatives of Tufts and MIT also were unwilling to provide documents or comments to Mr. Stewart and Dr. Feder. In a letter to Dr. J.E. Rall, Deputy Director for Intramural Research, NIH, Dr. Baltimore offered to have the dispute resolved by a panel of immunologists on the condition that Mr. Stewart and Dr. Feder accept the decision of the panel and not comment on the matter again. Mr. Stewart and Dr. Feder rejected this proposal."

The Feder-Stewart paper has never been published, nor were they consulted by the expert panel that conducted the investigation for NIH. NIH offered no official comment on Baltimore's outrageous assertion that he would accept an investigation on the condition that Feder and Stewart would agree to eternal silence on the subject.

The Nobel laureate obviously had good reason to wish to rid himself of his indefatigable tormentors. But to demand a vow of silence from critics as a condition of cooperating with a government investigation is a new high in arrogance.

—DSG

Corporate Turmoil Hurts R&D, NSF Study Reports

Upheavals in corporate ownership "appear to be a major factor responsible for the lack of real growth in industrial R&D spending in the mid-eighties." That's the main conclusion of an analysis performed by the National Science Foundation at the request of Congress. Though simply stated and short, a mere two-and-a-half single-spaced pages, the NSF report is likely to draw wide attention as debate grows over the effects of the ongoing wave of corporate acquisitions, mergers, and leveraged buy-outs.

The debate has heretofore been notable for its large anecdotal content and out-of-date statistics, with virtually every prior study picking over a few cases, such as the scaling down of R&D at the David Sarnoff Research Center after General Electric bought out RCA and donated the lab to SRI International. The NSF study, however, worked with the data of 200 leading R&D-performing companies in the Census Bureau's Annual Survey of Industrial Research and Development. These firms, none identified by name, each spend at least $100 million annually on R&D and account for 90 percent of company R&D expenditures in the US. The NSF analysis extended from 1975 to 1987, a span that provides sufficient time for interesting comparisons.

An Assessment of the Impact of Recent Leveraged Buy Outs and Other Restructurings on Industrial Research and Development Expenditures. Available without charge from: NSF, Division of Science Resources Studies, 1800 G St. NW, Washington, DC 20550; tel. 202/634-4648.

The study doesn't resolve whether the restructurings contributed to more efficient use of research resources, as corporate raiders, backed by some economists, contend when accused of wreaking destruction. But it does claim to find a pattern of downward R&D spending following corporate ownership battles of recent times. Among the major points:

- Real growth in corporate R&D spending ended in 1986 after averaging 5.8 percent per year over the previous decade.
- The lack of R&D spending growth is attributable to spending cuts by 16 major firms involved in recent mergers and another eight in leveraged buy-outs or other restructurings.
- "These 24 companies," the NSF study states, "had a combined 5.3-percent reduction in R&D spending in current dollars between 1986 and 1987. In contrast, all other R&D-performing companies reported a 5.4-percent increase in their R&D expenditures during that period."
- Between 1986 and 1987, R&D spending declined by a total of 12.8 percent in the eight companies involved in leveraged buy-outs, buy backs, or major restructurings to avoid becoming targets of takeovers.
- Transportation firms in restructuring situations experienced a 5.5-percent decline in R&D between 1986-87, while R&D funding in the remainder of the transportation industry rose 2.4 percent.
- In chemicals, including pharmaceuticals, R&D increased by 9.8 percent in firms uninvolved in restructuring, but rose by only half that amount in restructured firms.
- Staff reductions, averaging 4.8 percent, took place in firms reporting cutbacks in R&D spending in 1986-87, while total industrial employment of R&D scientists and engineers rose by 1.8 percent.

The NSF report, commissioned by the Subcommittee on Telecommunications and Finance of the House Energy and Commerce Committee, is a skimpy production, consisting mainly of assertion without accompanying data. Focused on gross volume of R&D spending and employment levels, it doesn't address the basic issue of marketplace result, which is all that counts in industrial R&D. But Washington's operatives get their ammunition where they can.

NSF accompanied the analysis with a press release in which Director Erich Bloch was quoted as saying: "Any factor that causes reductions in research weakens our industries' ability to compete internationally." Bloch continued: "These firms may be decreasing R&D funding in an effort to avoid what they perceive as duplication, but a continuation of this trend would constitute a serious reduction in the nation's total research capability and would limit our ability to respond to foreign competition."

200,000 Pages on 30 Disks

An agreement to develop and test a compact-disk, read-only memory (CD-ROM) database system for immense quantities of their professional literature has been announced by the Institute of Electrical and Electronics Engineers (IEEE) and the London-based Institution of Electrical Engineers (IEE) in conjunction with University Microfilms, Inc.

According to an announcement from the IEEE, 25-30 CD-ROM disks will provide storage and efficient retrieval for the entire 1988 collection of IEEE and IEE journals, conference reports, and other documents, totaling about 200,000 pages of text.

Listed as participants in user tests of the system are: Polytechnic Institute, NY; University of Michigan; University of Illinois, Urbana; Stanford University; US National Institute of Standards and Technology; Naval Research Laboratory; General Electric, Schenectady; Xerox Corporation, Webster, NY; Hughes Aircraft; Hewlett-Packard; Imperial College of Science and Technology, London; GEC Hirst Research, Wembley, England.

The IEEE lists 260,000 members in the US and 60,000 in other countries, and says it is the world's largest professional technical society.

In Quotes: Sen. Mikulski on R&D Budget Stresses

The changes in committee chairmanships that occur with each new Congress have brought a new influence into the politics of science, Senator Barbara A. Mikulski (D-Md.), who has succeeded the retired William Proxmire (D-Wisc.) as Chairman of the Appropriations Subcommittee for Housing and Urban Development and Independent Offices. For research funding, the Subcommittee is a crucial junction, having jurisdiction over NSF, NASA, and EPA, along with federal housing programs and the Veterans Administration, plus a flock of minor government agencies. Under Congressional budget rules, this odd melange must share a given pot of money ($60 billion last year), with gains for one being offset by losses for another. The process is one in which the Subcommittee Chairman is the most influential, though not necessarily dominant, figure.

Mikulski, now in her third year in the Senate, was a social worker in Baltimore before election in 1976 to the House, where she established a strong liberal voting record. Though laden with federal research facilities, such as NIH and the Department of Energy headquarters, Maryland has only one big one within Mikulski's Subcommittee jurisdiction, the Goddard Space Flight Center. Space fans have noted that home-state connection and are hoping it will make Mikulski a NASA booster.

Some of the first clues about the new Chairman's thinking about research spending were provided on January 19, when she addressed the American Institute of Aeronautics and Astronautics, in Washington. Following are excerpts.

Congress can make effective decisions if we have reliable information. However, NASA does not yet have a clear strategic, long-range plan, nor does it consistently report full costs of projects.

For example. . .Congress was told we would need $14 billion to have a space station, and then a little bit later they said, oh, gee, we need another $14 billion to launch it. [Rep.] Bob Traxler (D-Mich.) [Chairman of the House counterpart of Mikulski's Subcommittee] and I can go to the House and Senate once. We can't go again and again because someone remembered one more thing they forgot to tell us. We need NASA to tell us what they're going to do. . . .

If you get [the space station], first of all, what would you do with it? After you tell us you'll look at microgravity, well, what else are you going to do? We need to know if we're going to make such an enormous investment. . . .We aren't hostile to the space station. . . .But Bob and I face 533 other members who will ask exactly those same questions. . . .

[A]s an Appropriations Senator, I am only as good as my 302(b) allocation, good ol' 302(b) allocation [the sum allotted to an appropriations subcommittee for division among the agencies in its jurisdiction]. I intend to fight real hard for my 302(b), and I will get in there with my colleagues. I'm the first woman in my church to become a Cardinal. You know what they call the Appropriations Subcommittee Chairs: the College of Cardinals. You know, I'll put on my little red hat and I'm ready to really fight for that.

But what you should know is what else is in 302(b), for many of you might not watch it. Also in there is housing, veterans, environment, and the National Science Foundation. Last year in the Senate, the 302(b) was roughly $60 billion. Twenty-eight billion automatically went to veterans for mandated pensions and health care. We can't touch it; we won't touch it and I will not turn my back on American veterans. . . .That leaves us $32 billion.

Second, we come to housing. Last year, housing was funded at $12 billion. Under Jimmy Carter and Jerry Ford, housing was funded at $24 billion. Senator Mikulski will not go below $12 billion; in fact, I want a little bit more. . . .

So, just taking that, we're now up to $40 billion. When we take that, then we have the environment. We have the National Science Foundation. I have FEMA (Federal Emergency Management Agency), and a variety of other agencies. . . .If you've got only $60 billion, it goes pretty quick, doesn't it?

In Print

(Continued from Page 8)

Order from: Office on Smoking and Health, US Public Health Service, Park Building, Room 116, Rockville, Md. 20857; tel. 301/443-1690.

EEZ News (quarterly, one page, no charge), items about publications, meetings, etc. concerning the oceanic exclusive economic zone, produced by the US Geological Survey-National Oceanic and Atmospheric Administration Joint Office for Mapping and Research in the EEZ.

Order from: USGS-NOAA Joint Office, 915 National Center, Reston, Va. 22092; tel. 703/648-6525.

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In Print: Academic R&D, Industrial Research, Etc.

The publications listed are obtainable as indicated---not from SGR.

Federal Support to Universities, Colleges, and Selected Non-Profit Institutions, Fiscal Year 1987 (NSF 88-330, 225 pp., no charge; also available on diskettes), latest of an annual NSF statistical series, provides voluminous data on awards to academe, to the top 100 institutions, which took in 85 percent of the total, down to the many that received only trifles. This is the standard publication for tracking the disbursement (and to those on the short end, the inequities) of federal academic funding. Included are awards for training, equipment, conduct of research and development, and R&D buildings, which doubled in dollar volume from 1986 to a total of $230 million in 1987, thanks in large part to Congressional pork-barrel awards.

Order from: NSF, Division of Science Resources Studies, 1800 G St. NW, Washington, DC 20550; Attn. Richard Bennof; tel. 202/634-4636.

STI Review (90 88 01 1; 189 pp., $23.50) fourth issue of the semi-annual journal on topics involving science, technology, and industry, published by the Organization for Economic Cooperation and Development (OECD), Paris-based consortium of the major non-Communist industrialized nations. Subjects covered are international technology licensing, technical cooperation agreements between firms, measuring the economic effects of technology, and technology exports by Spanish firms.

OECD publications are available from OECD offices and commercial booksellers in many major cities throughout the world. In the US, order from: OECD Publications and Information Center, 2001 L St. NW, Suite 700, Washington, DC 20036-4095; tel. 202/785-6323.

Information Technology and the Conduct of Research (72 pp., $10), report from the National Academy of Sciences, produced by a panel chaired by Donald N. Langenberg, Chancellor, University of Illinois, Chicago, says universities, federal agencies, and all branches of the computer industry should strive to expand the use of computers in research, including development of a "nationwide infrastructure for computer-based research communication." Also recommended is "the establishment at a national level of a user's group to oversee and advise on the evolution and use of information technology in support of scientific, engineering, and clinical research."

Order from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-3313.

National Center for Health Statistics: Organization and Activities (DHHS Publication No. PHS 88-1200; 20 pp., no charge), describes the many data series produced by the federal government's principal agency for vital and health statistics, and tells how to obtain them.

Order from: National Center for Health Statistics, Science and Technology Information Branch, Room 1-57, 3700 East-West Highway, Hyattsville, Md. 20782; tel. 301/436-8500.

Measuring and Deterring Illegal Disposal of Hazardous Waste (RAND/R-3657, 85 pp., $7.50), report of a study for the Environmental Protection Agency by the RAND Corp. on the extent of illegal waste disposal, described as "having become more sophisticated in recent years, because of increasing enforcement pressures." The authors, James K. Hammitt and Peter Reuter, conclude there's probably a serious problem there, but say more information is needed to devise an effective response.

Order from: RAND Corp., Publications, 2100 M St. NW, Washington, DC 20037; tel. 202/296-5000.

Reducing the Health Consequences of Smoking: 25 Years of Progress (32 pp., no charge), summary of report issued by the Surgeon General on the 25th anniversary of the publication of the first Surgeon General's report on Smoking and Health. The fullscale version of the latest report is scheduled for publication this year.

(Continued on Page 7)

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